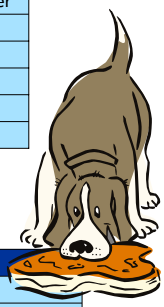
Southampton NHS University Hospitals NHS Trust

Paediatric Assessment

How to observe the sick child

Observing skin colour

Observation	Significance
Flushed	Possible pyrexia
Bruising	Accidental or non-accidental injury or clotting disorder
Pallor	Shock, anaemia or cold
Cyanosis	Cardiac or respiratory problem
Diaphoresis	Cardio-respiratory distress
Rash	Infectious disease or allergy
Jaundice	Physiological or hepatic infection or obstruction



Looking and listening to respiration effect

	Observation	Significance
Noise	Stertorous	Altered concious level
	Wheeze	Inflamed and narrow lower airway
	Sighing, yawning	Shock, blood loss
	Stridor	Obstruction of upper airway
	Grunting	Respiratory distress (infants)
	Cough/whoop	Irritation of the upper respiratory tract
	Bark	Inflamed & narrow upper airway
Rate	Dyspnoea	Cardiac or respiratory problem
	Tachypnoea	
Movements	Sternal retraction	Respiratory distress
	Nasal flaring	Respiratory distress
	Tracheal tug	Respiratory distress
	Intercostal recession	Respiratory distress

Listening and looking at the child's behaviour

	Observation	Significance
Behaviour	Unresponsive	Neurological deficit
	Lethargy	Toxicity
Cry	Shrill/high pitched	Cerebral irritation
	Whimpering	Pain and/or fear
	Lusty	Anger or hunger
Position	Limp/flaccid	Toxicity
	Head/neck retraction	Cerebral irritation
	Knees drawn up	Abdominal pain
Relationship with others	Watchful	Pain/fear

Observing the dehydrated child

Sign/symptoms	Mild < 5%	Moderate 5 – 10%	Severe > 10%	Notes/caveats
Decreased urine output	+	+	+	Beware watery diarrhoea making nappies appear "wet"
Dry mouth	+/-	+	+	Mouth breathers are always dry
Decreased skin turgor	-	+/-	+	Beware the thin, use several sites
Tachypnoea	-	+/-	+	Metabolic acidosis and pyrexia worsen this
Tachycardia	-	+/-	+	Hypovolaemia, pyrexia and irritability cause this

Normal Ranges

Heart rate by age

Age (years)	Heart rate (beats per minute)
<1	110-160
1-2	100-150
2-5	95-140
5-12	80-120
>12	60-100

APLS

Respiratory rate by age at rest

Age (years)	Respiratory rate (breaths per minute)
<1	30-40
1-2	25-35
2-5	25-30
5-12	20-25
>12	15-20

APLS

Systolic blood pressure by age

Age (years)	Systolic blood pressure (mmHg)
<1	70-90
1-2	80-95
2-5	80-100
5-12	90-110
>12	100-120

APLS

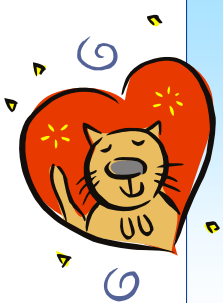
Arterial gas

Test	Normal value	Acidosis	Alkalosis
pH	7.35-7.45	<7.35	>7.45
pCO_2 (mmHg)	(35-45) 4.7-60	(>45) >6	(<35) <4.7
pO_2 (mmHg)	(80-100) 10.6	(<80) <10.6	>100
HCO_3 (mmHG)	22-26	<22	>26
Base	±2	More Negative	More positive

Respiratory acidosis
Increased PCO 2' decreased pO2 - caused by obstructive lung disease or hypoventilation

Respiratory alkalosis
Decreased pCO 2' increased pO2 - caused by hypoxia or hyperventilation

Summary: the rapid clinical assessment of an infant or child



Airway and Breathing	**Are they able to talk?** **Effort of breathing** **Respiratory rate/rhythm** **Stridor/wheeze** **Auscultation** **Skin colour**
Circulation	**Heart rate** **Pulse volume** **Capillary refill** **Skin temperature**
Disability	**Mental status/conscious level/AVPU** **Posture** **Pupils**

- The whole assessment should take less than a minute.
- Once airway (A), breathing (B), and circulation are clearly recognised as being stable or have been stabilised, the definitive management of the underlying condition can proceed.
- During definitive management reassessment of ABCD at frequent intervals will be necessary to assess progress and detect deterioration.

APLS